

Horticulture Northwest

Journal of the Northwest Ornamental Horticultural Society



Sequoia sempervirens

Volume 5

Number 4

Winter 1978

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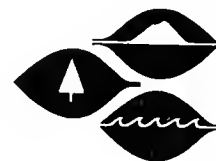
Horticulture Northwest

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Sallie D. Allen, Editor

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Redwoods And Bald Cypress

Which is Which?

J. A. WITT

Curator of Plant Collections
University of Washington Arboretum

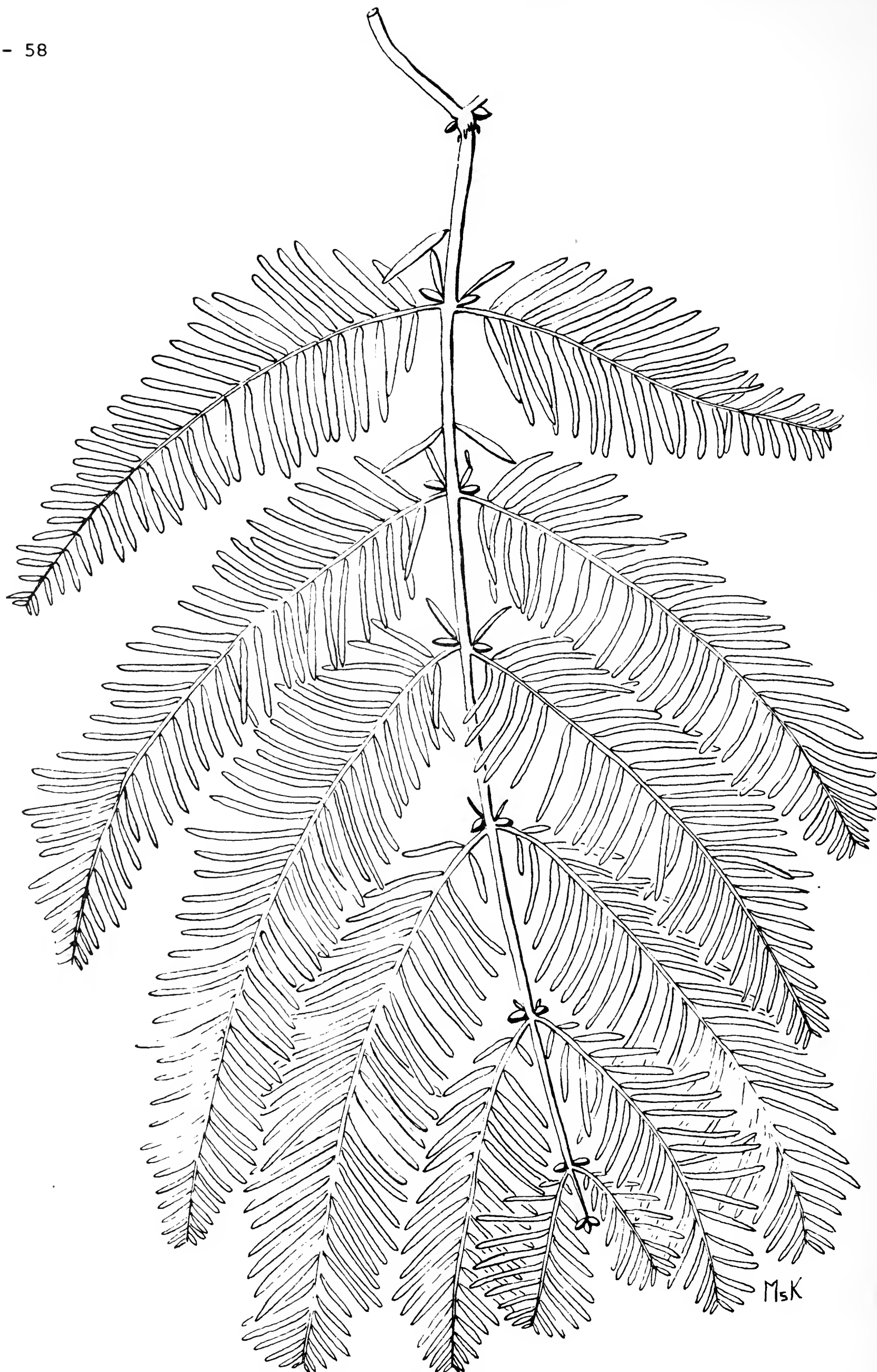
There is in the Arboretum's 1948 acquisition book, the book where all plants received are recorded, an interesting letter from E. D. Merrill, then Director of the Arnold Arboretum. This letter is quoted below:

Enclosed is a package of seeds of a remarkable conifer *Metasequoia glyptostroboides*, from Szechuan. I financed a special expedition in 1947 to secure these seeds. The genus was proposed in 1941 to take certain fossil species from Montana, Japan, Sagkalion, Manchuria, etc. that had been originally described from fossil material, the type, I suppose, being the paleobotanical *Sequoia heerii* from Montana. Three or four years after *Metasequoia* was described a living form was discovered in Szechuan, at first three trees only; the 1946 expedition brought the census up to about 25 trees, and that of 1947 raised it to about 100 individuals. The trees attain a height of about 35 meters, and are *deciduous* like *Larix* and *Pseudolarix*. This ancient type was discovered just as it apparently was on the verge of extinction, this, to me being one of the remarkable things about the discovery. I hope that you may be able to germinate some of the seeds. The tree grows on slopes, as widely scattered individuals over a distance of at least 100 miles (for it was found in adjacent Hupeh, the type locality being about 100 miles from the Hupeh border), so if my field reports be true, and I have every reason to believe that they are true, not much remains to represent this ancient species.

I have prepared a short article for publication in *Arnoldia* early in 1948, probably in the first number, giving the high lights regarding this remarkable discovery. My tentative title is "Another living fossil." It has occurred to me that with the receipt of these seeds you can get a little favorable publicity for your Arboretum project, although perhaps you may wish to wait until you receive the *Arnoldia* item. I have never believed in "putting all of our eggs in one basket and hence I am giving these seeds rather wide distribution."

Quite naturally the discovery and distribution of viable seeds of the *Metasequoia* caused a considerable stir in both botanical and horticultural circles, and there is now, thirty years later, still high interest in the dawn redwood. The Arboretum has plants raised from the 1948 seed that are over sixty feet tall and other trees elsewhere are reported to be taller and producing viable seed.

There can be no doubt that *Metasequoia* has become well established with a world wide distribution and, like *Ginkgo biloba* and *Franklinia alatamaha*, was probably saved from extinction by being made available to so many botanic gardens and arboreta.



Metasequoia glyptostroboides
Illustration: Mareen S. Kruckeberg

There is some confusion in the minds of gardeners about the distinctions among several trees closely related to *Metasequoia* and how to tell them apart. These include *Sequoia*, *Sequoiadendron*, *Metasequoia* and *Taxodium*. One might add *Glyptostrobus* and *Taiwania*, but as these two genera are very rare in cultivation and more likely to be seen in California than the Pacific Northwest, they will not be included in this discussion. All are members of the *Taxodiaceae*, the redwood family. They are large trees with either scale-like or needle-like leaves, woody cones, and may be either evergreen or deciduous. With the exception of *Taxodium*, they are monotypic genera, i.e. they have only one living species. *Taxodium* has three species, *Tt. distichum*, *ascendens* and *mucronatum*. However, *T. distichum* is the most commonly seen in cultivation in our area.

Perhaps the easiest way of distinguishing these four genera would be to compare certain characteristics among them. The following chart will help:

REDWOOD	BIGTREE	BALD CYPRESS	DAWN REDWOOD
<i>Sequoia sempervirens</i>	<i>Sequoiadendron giganteum</i>	<i>Taxodium distichum</i>	<i>Metasequoia glyptostroboides</i>
-	-	-	-
leaves & twigs alternate, whorled	leaves & twigs alternate, whorled	Leaves & twigs alternate, whorled	leaves & twigs opposite
-	-	-	-
leaves evergreen flat, needle-like 1.5 cm long	leaves evergreen, scale-like, awl-shaped, 1.2 cm long	leaves & twigs deciduous, flat, needle-like, 1 cm long	leaves & twigs deciduous, flat, needle-like, 1-2 cm long
-	-	-	-
cones egg-shaped, 2-2.5 cm long, cone scales spirally arranged	cones egg-shaped, 5-7 cm long, cone scale spirally arranged	cones roundish, 2.5 cm across cone scales spirally arranged	cones oblong or roundish, 2-2.5 cm long, cone scales in opposite pairs

There are, of course, many other distinctions but the above are some of the most obvious. Another but somewhat more subtle distinction is in the growth-rate of the trees. In a suitable location in the Arboretum *Metasequoia* grew to 65 feet tall with a trunk diameter of 17 inches at 4½ feet above the ground (DBH) in 22 years. A *Taxodium* in a similarly suitable site grew to very nearly the same dimensions, 64 feet tall, 17 inches DBH, in 38 years. A *Sequoiadendron* probably planted in 1937 is now 98 feet tall and has a DBH of 55.6 inches. A *Sequoia* planted at the same date and within fifteen feet of the bigtree is 87 feet tall with a DBH of 32.4 inches. It is obvious that the dawn redwood is the most rapid grower, nearly 3 feet per year, followed by bigtree which grew about 2.4 feet, then redwood at slightly over 2 feet and finally bald cypress at 1.7 feet per year. Naturally the sites where the trees grow make considerable difference in their growth rate. Dawn redwood has a distinct preference for moist soils, and in fact the Chinese call it water fir. It will grow very well in dryer locations but perhaps not so rapidly. Bald cypress is a swamp dweller and the Arboretum's best specimens are in a saturated piece of ground south of the Pinetum. It will also grow well in good garden soil. The *Sequoia* and *Sequoiadendron* do best in dryer sites and will even tolerate some drought especially in the summer months.

All four species are reasonably hardy in the warmer areas of the Northwest. *Metasequoia* and *Sequoia* were injured by the November, 1955 freeze and reports have it that the former may be slightly damaged by early frosts. However, it is thriving in many areas where the temperature reaches below 0° F every winter. *Sequoiadendron* is surprisingly tough. There is a large tree on the campus of the University of Idaho in Moscow and others are growing in New York and Pennsylvania. Bald cypress, hardy to at least -20° F and probably below, is the equal of *Metasequoia* where cold is a problem. It is somewhat surprising to find dawn redwood cold resistant since the area where it is now found wild is one of very warm summers and mild, often frost-free winters. It seems safe to assume that it once had a wider distribution that extended into colder climates.

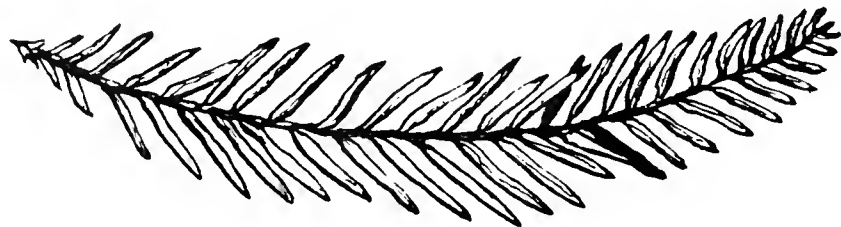
Sequoia
sempervirens



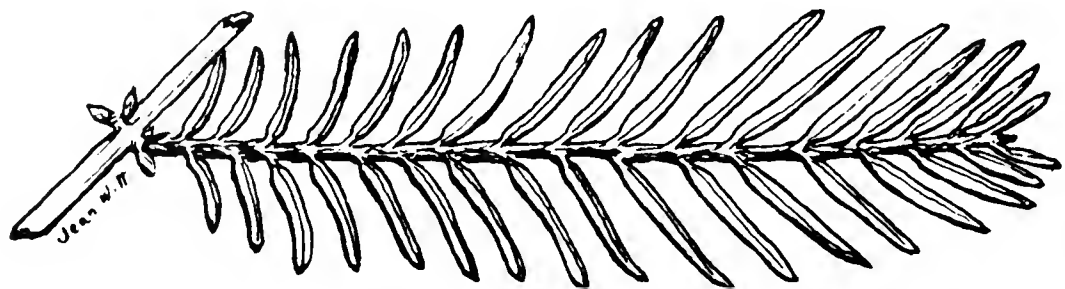
Sequoiadendron
giganteum



Taxodium
distichum



Metasequoia
glyptostroboides



Illustrations: Jean Witt

Devonian Botanic Garden

UNIVERSITY OF ALBERTA

P. N. D. Seymour, Director

The Botanic Garden was founded in 1959 on 80 acres of land donated by the late H. A. Dyde, Q.C. It is situated some 15 miles outside the city of Edmonton and is the most northerly Botanic Garden in Canada.

The Garden is made up of a mixture of aeolian sand dunes and peat bottoms, the sand dunes being the relic of glacial Lake Edmonton. The peat is slightly alkaline; the sand being fairly fine and acid.

The Garden has been developed on strictly naturalistic lines, the main development following the lines of the dune and peat areas. There are two ecological reserves, a large slough with bordering vegetation, and a dry-land forested area. One area has been set aside as a nature conserve with some of the plants labelled, and a nature trail goes through this area.

The natural vegetation is variable, according to aspect and light. *Picea glauca* (white spruce), *Pinus banksiana* (jack pine), *Populus tremuloides* (aspen), and *Betula papyrifera* (paper birch) are the upper story on the drier tops of sand dunes. The middle story consists of *Prunus pensylvanica* (pin-cherry), *Prunus virginiana* var. *melanocarpa* (chokecherry), *Corylus cornuta* (hazelnut), and *Amelanchier alnifolia* (saskatoon). The lower story has *Rosa acicularis*, *Ribes* spp., and *Shepherdia canadensis*, with herbaceous plants.

In the lower wetter areas are the dunes. *Populus balsamifera* replaces *P. tremuloides*. The peat bottoms have a heavy growth of *Salix* spp. with an occasional *Larix* grading into sedge and grass. Prominent among the plants are *Lathyrus venosus*, a pink pea, *Viola adunca*, *Sisyrinchium montanum*, *Lilium philadelphicum* var. *andinum*, and *Corydalis aurea*.

Our principal aims are as follows:

- a) To establish a collection of cultivated plants hardy in the Edmonton region, both for University teaching and public education.
- b) To conduct plant introduction and winter hardiness trials with the aim of increasing the range of plants grown in the Edmonton region.
- c) To provide an esthetic setting for the public to see, enjoy, and learn in various ways about the collection of plants maintained for different purposes in a naturalistic setting.
- d) To enable the public to become aware of and appreciate one of the many aspects of extension work of the University in a congenial setting.
- e) To encourage public interest in, and support for the Garden by means of the "Friends of the U. of A. Devonian Botanic Garden."

In the early years development was slow due to minimal funding. However, by 1974 a good start had been made on landscaping. The summer of 1974 was wet, followed by heavy snow in the winter of 74-75. Spring 1975 was a disaster year. As we are an area of intermittent drainage there was nowhere for the excess water to go. Summer 1975 was spent rescuing plants from our low-lying areas. By fall we had lost hundreds of plants, and cattails had covered most of our landscaped area. Then the "Friends of the Garden" stepped in, and our flood became a blessing in disguise. They approached the Devonian Foundation for help. From them we obtained a grant of \$458,000, matched by the provincial government. They also got a grant of \$85,000 from the Muttart Foundation for a greenhouse, again matched by the provincial government. With these funds we were able to rescue, re-develop, and expand the garden as follows:

1. All the flooded land was dredged and built up above flood level. This has now been re-landscaped, and planted with trees, shrubs, and herbaceous plants.
2. The Garden was expanded by one hundred and ten acres.
3. Phase One of the Headquarters Building and Greenhouses was begun. This is due for completion in October, 1978.

As we are a University Garden, research is very important. The winter hardiness trials are a vital part of this research, and this part is one which has a great interest for the public.

We have several main areas developed. A large alpine garden, originally funded by the Stanley Smith Trust of Scotland is almost complete. We are finding that with our constant snow cover in winter we can grow an immense variety of alpines. Similarly, Himalayan plants, such as *Meconopsis* and *Primula* do very well. Our Garden emblem is the blue poppy, *Meconopsis betonicifolia*. A herb garden is completed. We have a collection of old-fashioned roses which were imported from New Zealand and have survived three winters. We maintain a collection of all varieties of *Gladiolus*. A Nature Trail system is being developed. Herbaceous perennials do well, as do spring bulbs, Siberian iris, and some *Iris* species. We even have a few hardy plants from Chile and New Zealand.

One of the questions frequently asked is "Where do we get our plants?" 90% of the plants in the Garden have come from seed. We exchange seed with + 400 Gardens throughout the world.

A word about our name - Devonian. The name was changed in 1976 with the donation from the Devonian Foundation. We are on top of the Leduc oil-fields and oil comes from the Devonian Strata. We are near the town of Devon, which takes its name from the strata, and we have oil wells in the Garden, so it all ties together perfectly.

Finally, a word about our fund-raising group, "The Friends." Without the devoted help of this group we would not be at the stage we are at. Come and see us when visiting Alberta. We are open 1 p.m. - 6 p.m. 7 days a week, May through September, and we are 6 miles west of Edmonton on hiway 16, then 9 miles south on hiway 60.

Miniature Natives In Containers

Dennis Thompson
Edmonds Community College

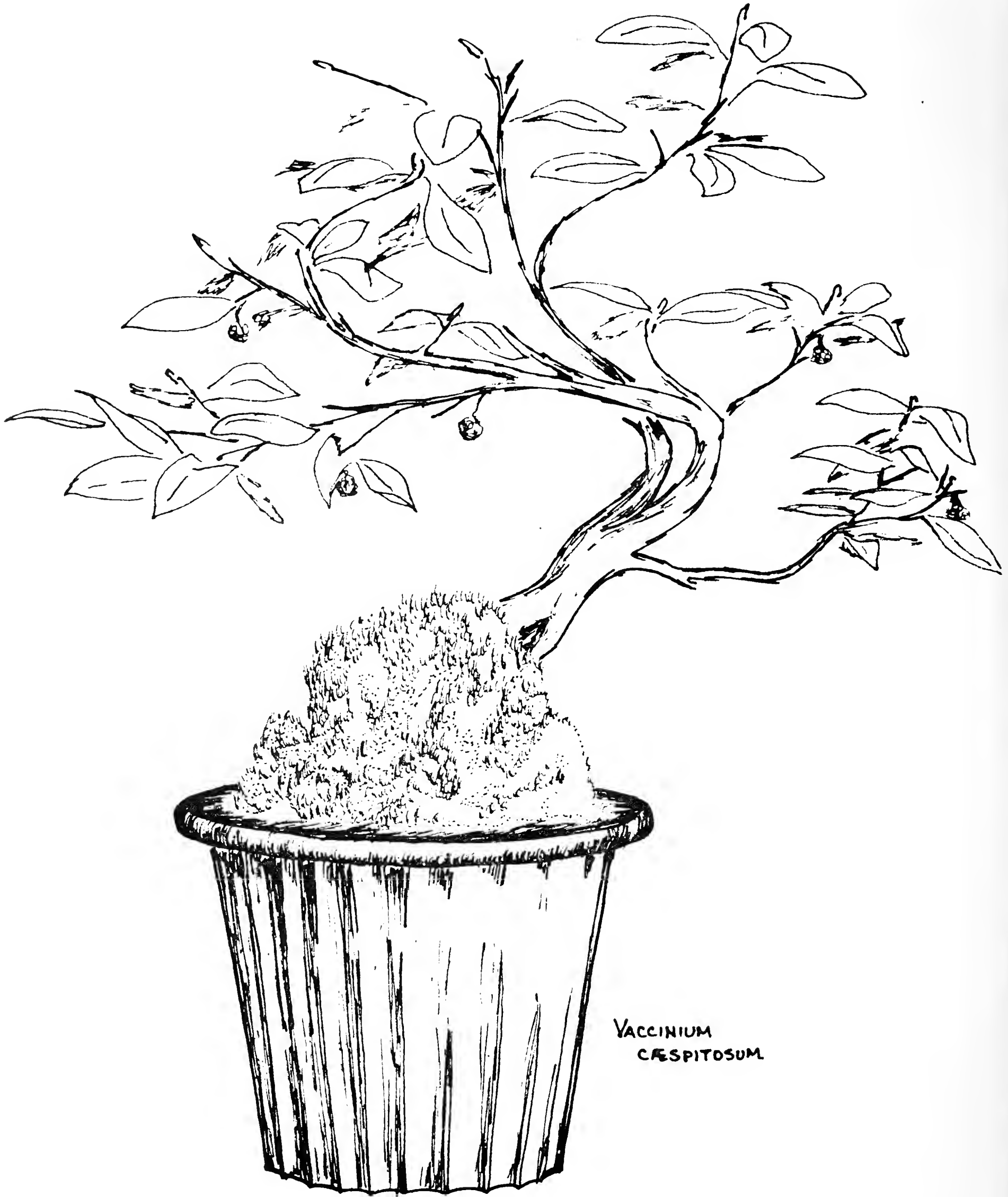
I have long been in awe of the lovely miniature bonsai, particularly those perched atop rugged lava mini-mountains. As a small child, I loved butterflies. Alas, my mini-planters survived me about as long as my butterflies. Being persistent - in some circles also referred to as pig-headed - I kept experimenting until I hit upon some small plants for small containers that survive in spite of me. Some of my favorites are northwest natives and can be rather easily handled.

Logically, what is easier to keep alive than a plant in its native habitat. Low care? Some have been rediscovered months after they disappeared in the weeds and brush as happy as they ever were with my T.L.C. I have foresaken the delicate Japanese maples, azaleas, and Nothofagus for our lovely sedums, scrophs, and saxes. Let me apologize to the artists who carefully train bonsai at this point. I am not a serious connoisseur of the art - my plants get repotted when the pot breaks or the mood hits me; they are watered a couple times a week during the summer if I'm home and if I remember it; they are pruned when I feel like pruning, and, they usually get fertilized at least once a year. In short, what I have, if you are kind, is "pseudo-bonsai" or just tortured pot plants. The vocabulary of bonsai is beautiful, however, and so frequently misused in this country I will slip some terms in where they convey the feeling I'm after.

My first experiments were with the sedums. *Sedum spathulifolium* has done marvelously. Its many forms mingle well for color variation in plantings. It survives well in thin soil on porous lava (scoria) but does best if it is at least lightly shaded. Besides the permanent planters I have, I keep stocks growing in the ground for "touch-up" and for my "mame" container. Mame bonsai is the smallest of the general classes and several pots will fit into the palm of a hand. Being basically a lazy gardener, I do not try to keep plants alive in these thimble size containers but pot them as I want them. By searching my sedum patches, it's easy to come up with one to five interesting rooted rosettes - some even with a gnarled trunk - to stick into a pot alone or with tiny pieces of lava or wood. Indoors the planters will last a month or longer before they die if they are not over-watered and forced into growth. (It is best to leave the planters outdoors in the shade at least a week to settle in before bringing them indoors. By returning the planters to moist shady areas outdoors when they are not needed, the plants' lives will be greatly extended.)

Other sedums also seem satisfactory, although my preference is the former. *Sedum oregonense*, *S. oreganum*, and *S. divergens* are sloppier and looser in habit, therefore are less picturesque. *S. lanceolatum*, particularly var. *rupicolum* of the Wenatchees, can develop a delightful color and a feeling of great age when grown hot and relatively dry.

There are a number of saxifrages that seem to adapt to the masochism necessary for survival in rocks. *Saxifraga occidentalis* survived well in a rock as long as the rock was sitting in a tray with a small amount of water in light shade. The dwarf heucheras seem to take to rock culture readily as long as they do not completely dry out and have protection from intense sunlight.



VACCINIUM
CAESPITOSUM

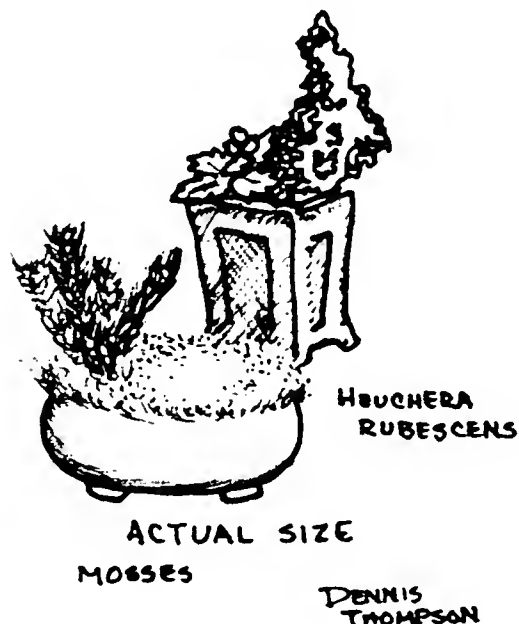
DENNIS
THOMPSON

(Beware: too much shade will lead to oversized leaves.) Presently, I have growing in rocks or pots *Heuchera cylindrica* forms, *H. rubescens*, and *H. rubescens* 'Troy Boy'. *H. sanguineum* selections and hybrids, the garden coral-bells, seem even tougher in constitution if coarser in texture. Others which I have not grown on rocks but do well in pots include *Mitella breweri*, *Saxifraga punctata*, *Tiarella trifoliata*, and the weedy *Tolmiea menziesii*. These require little or no attention if held in a moist shady area.

My oldest planter is slightly over five years old. It is a small wooden salad bowl with *Vancouveria hexandra*, *Selaginella densa*, and an unknown European saxifrage that have lived there and a *Synthesis reniformis* which replaced the juliana primrose that went to be with the Lord a couple years ago. After sulking for over a year, the *Vancouveria* and *selaginella* decided they liked the bowl and are growing aggressively. Several uninvited guests have dropped in - a Douglas fir, some epilobiums, and liverworts. Another pot, about the size of a six inch clay, is a year younger with a deer-browsed Douglas fir of questionable age. There are also several pieces of lava planted in a "ishuzuke" or tree and rock natural style defying death with *Tsuga mertensiana* saved from a perils-of-Pauline situation on a road cut and a lovely seed tray started by Roy Davidson with an *Amelanchier utahensis* that has been undisturbed for something over 14 years.

Huckleberries seem to adapt to no-care pot culture readily. My first which was collected five years ago has flowered for me every year and this spring produced a crop of 4 blue berries - something of a shock since I had assumed it was a red huckleberry. So, it would appear that both *Vaccinium parvifolium* and *V. ovalifolium* tolerate pots. (The seedlings may be carefully collected from rotting stumps and the wood placed into a pot to resemble a stump. Held in moist shade, the wood will completely moss over in a year.)

Festuca ovina var. *brevifolia* is a true survivor and does well in the thinnest layer of soil in full sun. The hotter it is the dwarfer the plant grows. Its only care is to clip the flower stems which are completely outsized and which will produce seedlings that romp merrily through the garden. *Carex pansa*, a similar beastie, is delightful in a pot, a little aggressive in the garden. Finally, one of the easiest of all for rocks or tiny pots is moss. Put a little clay loam or spongy decayed wood into the pot or cracks in the rocks and place them in a moist or wet shady location. Instant miniature velvet landscape!



What do you do with the planters? Since they are caring for themselves outdoors they are the perfect answer for decorating for company no matter how short the notice. Simply wipe the pots off and bring them indoors to the coffee table, dining table, or end table. Rocks can be set directly onto the table or placed into a shallow saikei tray filled with water like islands. They are quicker than flowers and may be held indoors up to three days during warm weather or one day during the winter without harm.

Hoheria

MOUNTAIN RIBBONWOOD

Brian Halliwell, Royal Botanic Gardens Kew

Two plants bear this common name of mountain ribbonwood, *Hoheria lyallii* and *H. glabrata*; they are so called because old bark peels off in lace-like strips. *Hoheria* is a genus of some five species of shrubs or small trees which is confined to New Zealand and although all are garden worthy, these two are the finest.

Both species flower in late summer and fall, a useful attribute in shrubs for a woodland garden where the main flowering tends to be in spring and early summer. They are similar in appearance and are probably no more than geographical forms of the same species as they were once classified.

Hoheria lyallii occurs in the wild only in the eastern foothills of the Southern Alps of the South Island of New Zealand at between 2000-3000 feet. Occurring on forest margins or along the banks of streams, it makes a large shrub or small tree to 20 feet in height, subject to altitude. Like so many New Zealand plants there are two stages of development where growth can be different. In the juvenile state the leaf stalks are long and slender with a thin leaf blade round in shape which can be lobed, and with a leaf margin composed of rounded teeth. In the adult stage which follows, the leaf stalk is shorter and thicker whilst the shape of the leaf blade, which like the young stems is covered with grey hairs, is lance- or heart-shaped with a tapering apex and with the teeth of the margins more sharply pointed. In July and August and continuing in some years into September several pendent mallow-like flowers on long stems are produced which have white petals and contrasting purple anthers.

Hoheria glabrata is very similar but its adult leaves are a shining green and without hairs when mature, oval or lance-shaped with an apex drawn out into an elongated point. In the juvenile state the leaf shape is roundish, oval or heart-shaped with irregular deep lobes. The flowers are similar to those of *H. Lyallii* but somewhat smaller. This species is confined to the western side of the divide of the Southern Alps in similar situations but its altitude range extends to 4000 feet into the alpine scrub.

Of the two species *Hoheria lyallii* is the finer species with larger flowers and attractive foliage, for its grey hairy leaves are a feature in their own right. *H. glabrata* coming from the wetter side of the Southern Alps grows better in gardens where there is good summer rainfall whilst *H. lyallii* prefers drier conditions. The wood of both species is rather soft and frost damage can occur if proper ripening does not take place before the onset of winter.

Dead wood is subject to infection by the disease Coral Spot which will spread to damaged, improperly ripened or weak wood. Pruning should take place in March or April when all damaged, diseased or dead wood is removed. Where space is no problem, there is little further pruning except to thin out crowded shoots, remove crossing branches and to keep the center of the bush open. In small gardens, bushes can be kept to size by hard pruning when growth produced in the previous season is cut back to two or three buds; this

NEWSLETTER

Winter 1978

A Supplement to Horticulture Northwest

PRESIDENT'S LETTER

November 20, 1978

Members and Friends,

Tonight is our twelfth annual meeting. The enthusiastic contributions of all of you have resulted in a long list of accomplishments. In 1978 we had a stimulating lecture series, two profitable plant sales, two unique garden tours, four outstanding quarterlies (now world known), and an increased membership (now over 600).

1979 promises even more. An outstanding lecture series, "Shaping Your Garden", has been announced. We are ready to embark on our \$100,000 endowment fund for Horticultural education and other horticultural activities. Our imaginative quarterly editor has four exciting issues planned with articles written by experts from all over the world. May 1st is the date set for a tour to Tacoma gardens. There are dates on the calendar for our two popular plant sales.

Thank you Board and many members of NOHS for making this year such a success, for carving a solid foundation for the future, and for allowing my role as your president to be so satisfying. I congratulate your new president and board and wish them success and good wishes.

May you all have a happy and blessed holiday. I look forward to seeing you next year.

Ann Herron



From the Editor:

It has come to my attention that a long awaited manuscript has been lost in the mail. My practice has been to acknowledge with thanks, receipt of articles for Horticulture Northwest either by phone (local contributors) or by letter. If you have not received such an acknowledgment within a reasonable time, please contact me.

In submitting an article, please keep a carbon copy and make certain it is sent by first class mail. If an original drawing is also sent, I suggest it come by registered mail, cardboard on either side of drawing and envelope clearly marked DO NOT BEND OR FOLD. Name and address of contributor should also be clearly indicated on envelope.

Sallie Allen

LECTURE SERIES MOVING

The N.O.H.S. 1979 lecture series, "Shaping Your Garden" is moving from the Eames Theater at the Pacific Science Center, to the Museum of History and Industry, 2161 East Hamlin St., Seattle. There will be a \$1.00 per person charge for each lecture to help with the increased cost of the auditorium but the easy, free parking adjacent to the building makes the museum a very attractive and convenient location.

Pacific Northwest Heather Society

A group of heather-growing gardeners, nurserymen and horticultural experts, from British Columbia, Washington, Oregon and northern California, met on Sunday, August 27th and decided to form the Pacific Northwest Heather Society, for the purposes of improving communication between heather growers, and of making information concerning heathers available to the public.

The society proposes to determine a list of the most desirable, available heather varieties; and Mr. J. A. Witt, Curator of Plant Collections at the University of Washington Arboretum, plans to provide at the Arboretum demonstration space for growing a selection of these desirable plants.

The society voted to establish dues of \$3.00 per year. It also voted to maintain group membership in The Heather Society, which is centered in Britain.

Membership in the society is open to all who are interested in heathers. Further information may be obtained from the president, Ken Wilson, Supervisor of Operations, University of British Columbia Botanical Garden, 6501 N.W. Marine Dr., Vancouver, B.C. V6T 1W5. Canada: the secretary-treasurer, Alice Knight, Heather Acres Nursery, Rte. 3, Box 231, Elma, WA 98541; or the corresponding secretary, Dorothy Metheny, 2810 46th Ave. W., Seattle 98199 (Phone 284-9092).



Membership Application

NORTHWEST ORNAMENTAL HORTICULTURAL SOCIETY

Purpose:

Shall be to further horticultural development and maintenance of the University of Washington Arboreta and plant life situated therein

Membership activities encompass:

Lecture Series, Study Groups, Annual Fall Plant Sale, Tours of gardens of horticultural interest, Quarterly Horticultural Journal.

(Please fill in form as you wish information to appear in yearbook)

Mr ☐ Mrs ☐ Ms ☐ Miss ☐

Name _____ (First Name) _____

Address _____ Phone _____

City & State _____ Zip _____

New Member (date) _____ Or Renewal (date) _____

*Membership renewals will come due January, May and September,
whichever month is closest to date of Membership Application)*

PLEASE MAKE CHECKS PAYABLE TO:

Northwest Ornamental Horticultural Society

MAILING ADDRESS:

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Seattle, Washington 98195

TELEPHONE: 513-8800

TYPES OF MEMBERSHIP:

- | | |
|---------------------------------------------------|---------------------|
| <input type="checkbox"/> Life | \$500.00 |
| <input type="checkbox"/> Sponsoring | \$100.00 & \$500.00 |
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| <input type="checkbox"/> Sustaining | \$ 10.00 |
| <input type="checkbox"/> Annual | \$ 7.50 |
| <input type="checkbox"/> Group Membership Minimum | \$ 10.00 |

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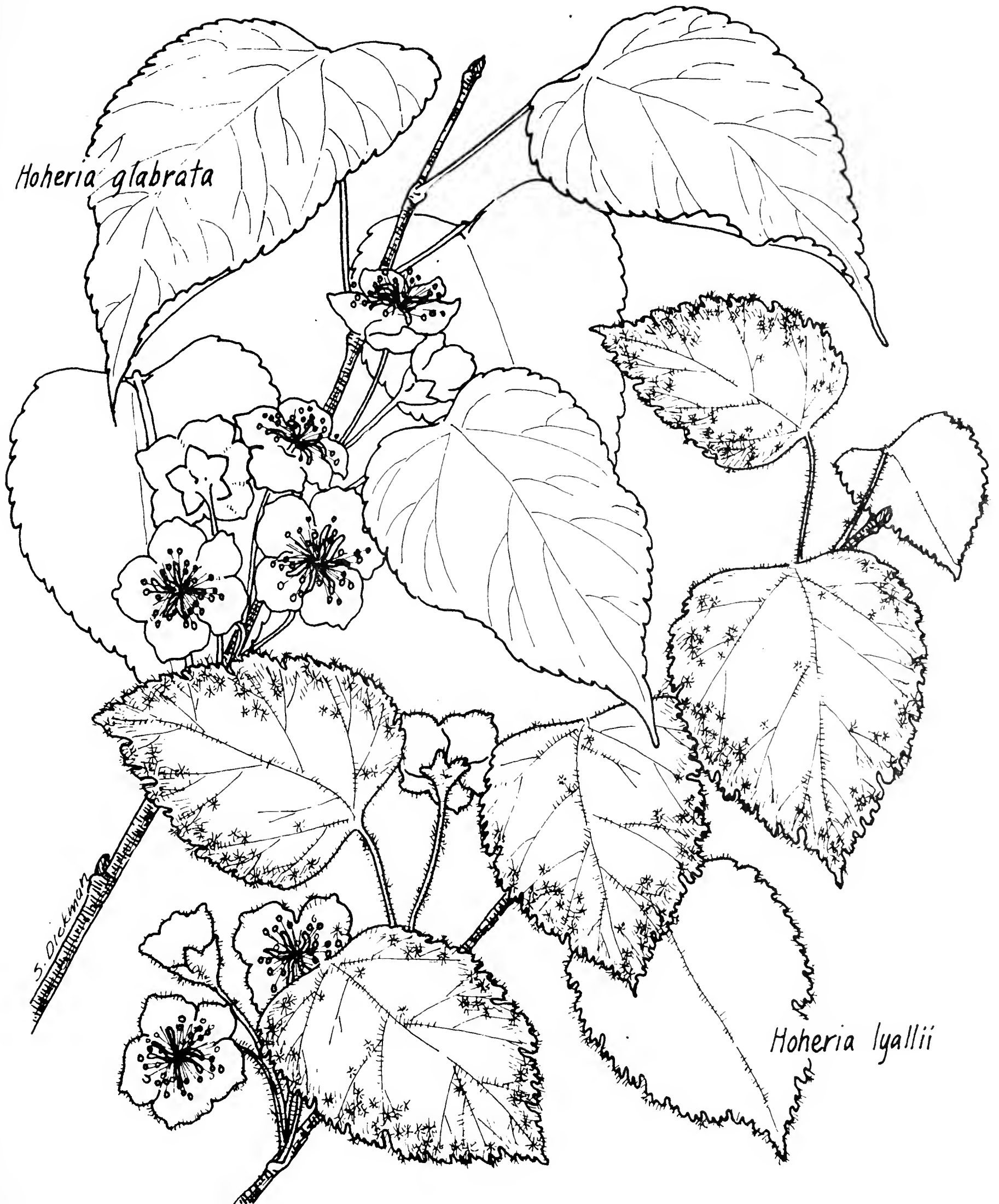
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COMING GARDEN EVENTS

- Dec. 27 Explorers' Walk. Sponsored by the Arboretum Foundation. Meet at the Foundation office parking lot, 10 A.M.
- Feb. 14 Seattle Garden Club Meeting. Speaker, Dr. Mildred Mathias, Prof. Emeritus of U.C.L.A. Subject, "A Rose is a Rose", Bloedel Hall, 1245 10th Ave. East, Seattle, 10 A.M. Open to public.
- Jan. 15 Northwest Orchid Society Meeting. 7 P.M. Shoreline Senior Center, 835 N.E. 155th, Seattle. Visitors welcome.
- Feb. 19 Northwest Orchid Society monthly meeting. Shoreline Senior Center, 835 N.E. 155th, Seattle. 7 P.M. Visitors welcome.
- Jan. 20 Women in Horticulture Seminar, Edmonds Community College, Lynnwood. Vocations and avocations of women working in horticulture and related fields in the Puget Sound area including landscape design, installation and maintenance; nursery operations; and others. Two separate sessions, 12:00-5:00 P.M. \$10.20 for either or both sessions, 128 Mountlake Terrace Hall. For more information, contact Patsy Rhoel or Dennis Thompson 775-4444.
- Feb. 22 Explorers' Walk. Sponsored by the Arboretum Foundation. Meet at the Foundation office parking lot, 10 A.M.
- March 8 N.O.H.S. lecture. "Pruning: How to and How Not to" by Chico Narro, garden expert, former Senior Gardener, University of Washington. Museum of History and Industry, 2161 E. Hamlin St., Seattle. Exhibits 10:30 A.M., lecture 11 A.M. Open to public, \$1.00 per person.
- Jan. 26 Seminar, "The Politics of Trees." Each of ten speakers brings a different concept of city trees, our urban forests. Sponsors: International Society of Arboriculture and the UW Arboretum. 9:00 A.M.-5:00 P.M. HUB Bldg. UW. Fee \$8 advance or \$9 at door, students half price. To receive information mailing call Marvin Black, City Arboretist, 625-2725
- March 19 Northwest Orchid Society Monthly meeting. Shoreline Senior Center, 835 N.E. 155th, Seattle. 7 P.M. Visitors welcome.
- March 22 Explorers' Walk. Sponsored by the Arboretum Foundation. Meet at the Foundation office parking lot, 10 A.M.
- March 29 Arboretum Foundation, Second Annual Spring Horticulture Exhibition, Museum of History and Industry, 2161 E. Hamlin St., Seattle. Thursday, 1 to 8 P.M., Friday, 10 A.M. to 3 P.M. Open to public, no charge. Refreshments will be served.
- Jan. 27 & 28 Northwest Orchid Society Annual Show. Snoqualmie Room, Seattle Center. Free. 10 A.M. to 10 P.M. on Saturday and 10 A.M. to 5 P.M. on Sunday.
- Feb. 8 N.O.H.S. Lecture: Creativity, Three Views. Participants will be Patricia Gutter, Assistant Professor of Landscape Architecture, U. of W., Donald I. Foster, Collector, Seattle and William Overholt, Collector, Seattle. Museum of History and Industry, 2161 E. Hamlin St., Seattle. Exhibits, 10:30 A.M., lecture 11 A.M. Open to public, \$1.00 per person.



in no way impairs flowering as these will be produced on current seasons growth.

Cuttings of both species taken in summer of growth where the base is beginning to firm are not difficult to root but these must be established in small containers before leaf fall, otherwise they rarely survive the winter. Plants can be raised from seed if sown on a well drained, lime-free compost. Although cold is not necessary to induce germination, seed germinates more evenly in spring if their containers are stood out-of-doors throughout the winter. Pot the seedlings as soon as they are big enough to handle, into small containers using a well drained compost with some peat. A year later they can be set into their planting positions in a lime-free soil containing organic matter in the form of peat or rotted leaves. Plant at the edge of woodland, in a clearing where the canopy is not dense or in full sunshine. It is important that wherever planted there is good air circulation for they resent stagnant air conditions.

Here are two shrubs that are different, hardy in the Pacific Northwest, and make useful additions to the woodland garden.

Creeping Snowberry

Marvin Black, Seattle, Wash.

Many superb plants fill the slopes of Mt. Townsend; it's easy to pass by good things without a second look. It took me three trips this summer to "discover" creeping snowberry, *Symphoricarpos mollis* var. *hesperius*, underfoot near the bottom of the Mt. Townsend trail in Skaar Pass in the Olympics. Perhaps we've all overlooked this little-known native which Hitchcock says ranges the entire west coast from southern British Columbia to southern California.

The white clustered berries in terminal racemes are plenty showy - and typical snowberry - but neither habit nor habitat are as typical. Like some enthusiastic kinnickinnick or cotoneaster, this plant spills in sheets (above ground) down slopes, long-trailing branches 8 or 10 feet long where it's happy. Unlike our common snowberry, it has very little upright-shrubby growth, and most often stays under a foot high.

Imagine the combination of these white winter berries tumbling down slopes with the evergreen leaves and red berries of *Arctostaphylos uva-ursi* or cotoneaster! Creeping snowberry seems always to want slopes, and did sometimes mix with kinnickinnick where I saw it. I'm working to root cuttings (they should be easy) and have a small layered division in my garden. Seeds of creeping snowberry will be in the NOHS Seed Exchange.

Okanogan Delights

Sallie D. Allen, Seattle, Wash.

For so many years our family spent every free weekend, spring, summer and fall, camping, fishing and exploring the high hills and mountains of western Washington. During the longer summer vacations we often went further afield, not only in Washington, but Oregon, California, to the eastern slope of the Rockies and northward for numerous trips into British Columbia. Some of our favorite places we have returned to many times, one being Okanogan National Forest, located on the northeastern side of the Cascades and extending to the Canadian border. The one drawback when the children were small was what seemed an endless drive through the hot dry country from near Wenatchee to Winthrop in the Methow-Chewack River country. Often our destination was Tiffany Meadows, high country to the east of Winthrop, where the children could romp and play safely and occasionally they could catch a respectable sized trout in the tiny creek that meandered past our single camp site.

During those trips we also explored the Twisp and Chewack Rivers, Eight Mile Creek and Harts Pass, following each road to its end and camping in one of the many campgrounds, whichever happened to appeal to us. Campers were few, fishing relatively good and plant hunting fascinating.

In recent years, with the scenic North Cascades Highway complete, (a spectacular drive whatever the season) we are within easy reach of our favorite rustic cottage on Early Winters Creek, just three and a half hours drive from home, enabling us to leave Friday afternoon and return Sunday night. This year we have been over three times, twice for long weekends in the spring, and for an entire week in early September. Springtime in the Methow is of course spectacular with the flowering of *Fritillaria pudica*, *Erythronium grandiflorum*, *Purshia tridentata*, *Mertensia longiflora*, delphiniums, calochortus, erigonums and various other dryland delights. However, it was the fall trip that was the most impressive for me despite it being too late for flowers and for the most part too early for seed collecting.

Each morning we packed the fishing gear and lunch for a day of exploring. It had been ten years since we had been in the Tiffany Mt. area and it had always been our intention to follow the Forest Service road beyond to the east and north. The easiest access is the Boulder Creek road, north and east of Winthrop, and because we found that a number of new roads had been constructed since we were last there, we were either up or down that route a number of times. Although the gravel roads were generally good, they were narrow, steep and winding, which is great for identifying plant material from the car as we drove along. I had recalled being surprised to see a lone *Lewisia tweedyi* somewhere along Boulder Creek some twenty years ago, the first time I had ever seen it in the wild, and surprised as I had thought it was endemic to the Wenatchee Mts. Although the odds for finding it again within the twelve or so miles seemed remote, we did locate the spot, not just a single plant but dozens, growing in tight rock crevices up a very steep open hillside. We saw it in a similar situation several days later near the end of the Chewack River road about six miles (as the crow flies) from the Canadian border. In both instances, a single location.

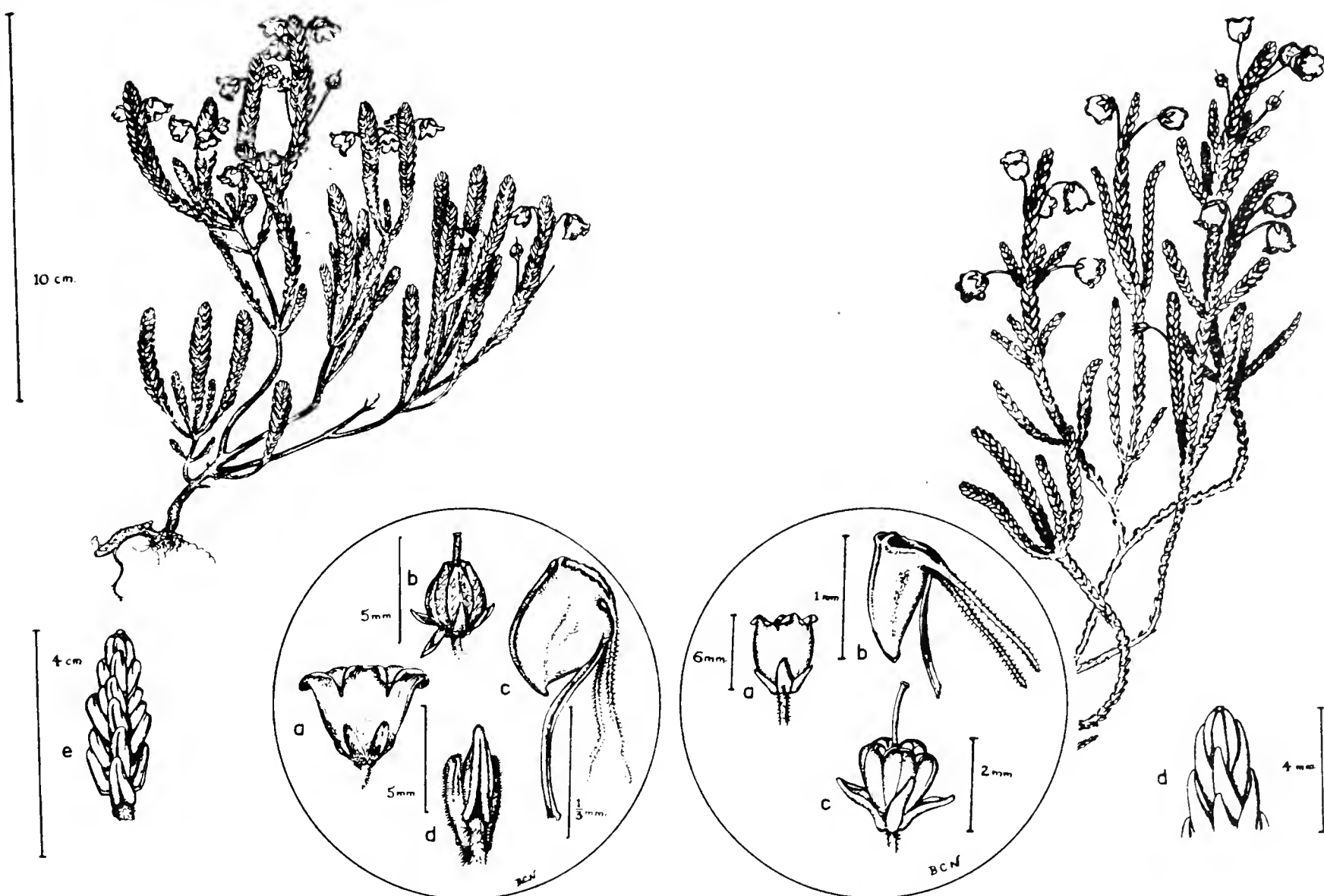
Prevalent in mid elevations were two shrubs that deserve to be better known and grown in a sunny section of our gardens. *Shepherdia canadensis*, a two to four foot deciduous shrub, has dark green, egg-shaped leaves, the backs of which have interesting scales and silvery hairs. Although the flowers are insignificant, the profusion of red translucent fruit is striking. Being dioecious, both male and female plants are necessary for fruiting. The second, *Purshia tridentata* (Rosaceae) you would discount as just dryland brush unless you have seen it in flower. It is gray-green in color, the leaves with three notches at the tip, its habit, spreading, with stiff irregular branching patterns; the yellow five-petalled flowers are delightful, much like little roses. It is difficult from cuttings, and seedlings small enough to collect are seldom to be found because they quickly form a long taproot. Collecting seed when ripe would be the best method of propagation.

Since we had previously climbed Tiffany Mt. (elevation 8242 feet) we did not stop at Freezeout Ridge, where the most accessible trail begins, an easy two mile hike to the top where there are extensive drifts of *Dryas octopetala*. My recollection of the flora is that it was not extremely varied, more a high country grassland, although the view on a clear day is marvellous. The most interesting trees were *Larix lyallii* and *Pinus albicaulis*, the seed of which had already been taken by animals and birds; seedlings too were hard to find. One very small *P. albicaulis* that I did collect for the garden is now about five feet tall and nearly as wide. There were localized drifts of *Phyllodoce empetriformis*, a very limited number of *Cassiope tetragona* var. *saximontana* in one place some distance from the trail and a few isolated clumps of *Aquilegia flavescens*, lovely with its bluish foliage and yellow flowers.

This first day we drove nearly 250 miles, stopping frequently to run up a hill to see what "that plant" was, trying to identify a prostrate blue leaved shrubby penstemon we had never seen before, etc. We came down out of the high country to Loomis, then south to Conconully, up over Old Baldy Pass and back into the Boulder Creek road below Tiffany.

The most thrilling plant hunting day was when we hiked into a tiny alpine lake (6400 feet elevation) nestled between two steep rocky mountains towering 2000 feet above. The distance between the mountain rock slides and the lake was very narrow. The most widespread small shrub, seemingly to grow in every sort of situation was *Vaccinium scoparium* which looks like a pocket edition of the lowland red huckleberry, *V. parvifolium*. It is a pleasant little six inch deciduous shrub for the garden but does not produce the small pinkish flowers or red fruit in quantity as it does in the wild. Its irregular branching habit is interesting, the flower, fruit and leaves are in perfect scale for bonsai.

The side of the lake roughly facing north east was the most interesting, with a strip several feet wide (sometimes narrower) of pure peat in which predominantly ericaceous plants were growing seemingly in miniature. Beginning at the outlet of the lake was the smallest form of *Gaultheria humifusa* that I have ever seen. The concave leaves were less than half normal size and barely extended above the sphagnum in which the congested little plants grew. Close by and sometimes intermixed were mats of *Kalmia microphylla*, prostrate with small recurved leaves. Further along the reddish peat mounded over the lakes edge but not into the water; there was no evidence of living sphagnum on it, rather occasional lichens or a small fine moss. It was in over the lakes edge but not into the water; there was no evidence of living sphagnum on it, rather occasional lichens or a small fine moss. It was in



White mountain heather (*Cassiope tetragona* (L.) D. Don.)--a, single flower; b, fruit; c, stamen; d, leaf showing characteristic furrow; e, tip of branch showing leaf arrangement.

Western moss heather (*Cassiope mertensiana* (Bong.) G. Don.)--a, single flower; b, stamen; c, dehiscent fruit; d, tip of branch showing leaf arrangement.

Illustrations by Betty C. Newton. Reprinted, by permission, from Heather Family of British Columbia by Adam F. Szczawinski, British Columbia Provincial Museum, Handbook No. 19.

this sort of situation that we began seeing *Cassiope tetragona* var. *saximontana* in every size from single stemmed seedlings a quarter of an inch high up to very large clumps. Curiously most of the mature plants were overhanging the lake but not touching the water. *C. tetragona* itself is an arctic species, nearly circumpolar in distribution, its variety apparently found only in western North America. This location is probably its southern most limit in the United States. The distinguishing features between the two are minor, *C. tetragona* has larger flowers and longer pedicels. If and when the two come together, possibly somewhere in the Yukon Territory, one cannot help but wonder if the two would be distinguishable at all. The other characteristics apply to both, stiffly upright except for large older plants, leaves, dark green, four ranked, tightly appressed like shingles on a roof, with a distinct groove up the back of each tiny leaf; the flowers are bell-shaped and white.

All of the *Cassiope* were of normal size with the exception of one variant, a large light green clump only an inch and a half high, and smaller leaves. Thinking it must be *Cassiope mertensiana* and the possibility of hybridization between the two species, I inspected it to find it did have the

distinct groove, whereas *C. mertensiana* found in the Olympics and Cascades is keeled on the back. The closest locality to this where I have found it is the high ridge above Harts Pass, far to the west of us. There were none at the lake. This variant grew in such a manner that it was possible to extract a small well rooted layer.

All of the roads we explored in the high country ranged in elevation from 6000-7500 feet. There were beautiful stands of *Ledum glandulosum*, a montane species that has been generally overlooked as a desirable ornamental. It has a fine open habit, much like a *Rhododendron* in appearance, oval evergreen leaves, the edges of which were turning lovely fall color. Although the white flowers are small, they are borne in dense clusters in the spring. With it grew *Rhododendron albiflorum*, *Menziesia ferruginea*, the ever present *Vaccinium scoparium* and often the pink mountain heather, *Phyllodoce empetriformis*, all growing in humusy woodland soil.

At "my lake", however there were dwarfed plants of *Ledum glandulosum* growing in the peat, some spreading, nearly prostrate in habit. On the other side of the lake where the soil was of a woodland type, it grew normally up to about four feet in height, its companion, among other things, was *Potentilla fruticosa*, also of normal size.

Other miniatures in the peat were *Vaccinium scoparium*, less than an inch in height with leaves one eighth inch long, *V. caespitosum*, half its usual size, as was its blue-black fruit. Perhaps the most interesting and unexpected find even for an *Ericaceae* specialist was *Linnaea borealis* var. *americana*, compact, dense little plants about two inches across with no evidence of the creeping branchlets as is typical of the plants growing wild here on our property, and the leaves were approximately one half normal size. I have never seen *Linnaea* at this high an elevation before, up to 7000 feet. We later saw it in large rounded clumps up to a yard across, on open grassy slopes in full sun, the same neat habit, the foliage so dense that the branches were completely hidden. Some of the plants growing near by in that situation were *Erigeron compositus*, *E. Aureus*, *Geum ciliatum* and several different sedums, although none of them was in any great number.

was sometimes across the firm but wet peat but more often back a few feet in thick black muck. Although an occasional tiny *Phyllodoce empetriformis* seedling could be found with the other dwarfed plant material, it was on the other side of the trail where it grew in large drifts, normal in size, as were the ledums, vacciniums etc. The *Cassiope*, however was not found except close to the water and in peat.

Most of these plants mentioned I have grown in my garden for years, thriving under our normal conditions of well drained, gritty humusy soil... with the exception of *Cassiope tetragona* from the far north, died off in short order with no hesitation at all. Its more southerly variety *C. t. saximontana*, presumably more amenable to cultivation, has just existed for over ten years, occasionally producing a single flower, hardly worth waiting for. The plant is still small because with a bit of new growth some of the older branches die off; not much of a success story. Perhaps this is one

species of an interesting and lovely genus that requires pure peat and abundant moisture in order to flourish in our gardens. As to whether or not the dwarf forms, planted in peat, will retain their miniature habit here, only time will tell.

Since it was early fall there were few flowers to be seen, and most seeds were not ripe enough to collect for the seed exchange. Flowers are not a necessity for those of us interested in our native flora, however we do want to return next summer to photograph and to go further afield with the Chopaka Mountains as a possible eventual destination. Perhaps too the fishing will be a little better!

NOHS SEED EXCHANGE

Seed for Discriminating Gardeners

This is the first year for the NOHS seed exchange. We will need the cooperation of all members who grow unusual plants, and/or collect seed in the wild, in order to make it a success. We are looking for seed of trees, shrubs, herbaceous plants and spores of ferns which are: 1) little known and grown, rare and unusual; 2) predominantly, but not exclusively, Northwest American natives, or plants particularly appropriate to Northwest gardens; and which are not: 1) readily available in nurseries; 2) easily obtainable in other seed exchanges (American Rhododendron Society, American Rock Garden Society, etc.); or 3) hybrids.

The final date for seed donation will be January 15, 1979. A seed list will be published as soon thereafter as is possible, with an order form, and distributed to all members, air mail to overseas members. The orders of seed donors will be filled first. A small fee will be charged for each packet of seed to cover costs of packaging and mailing.

The following procedure should be closely observed in donating seed:

1. Seed should be fresh and apparently viable (collected recently).
2. Seed should be cleaned of excess dirt, debris, etc., wrapped in tissue or waxed paper (not plastic), clearly labeled as to genus, species, where collected, something about growing conditions if possible, and donor's name.
3. If seed cannot be sent in immediately, it should be stored in a refrigerator at approximately 40° F.
4. To mail, enclose all separately-wrapped and marked seed in appro-

and the words, "Hand Cancel Only, Please" written in a conspicuous place on the front, and send to:

Mary Kenady, 18013 W. Snoqualmie Valley Road N.E., Duvall, WA 98019

Seed Sowing And How To Do It

The following list of references will be of help to you.

Alpine Garden Society Bulletin:

Vol. 18 p. 365-367
Vol. 20 p. 107
Vol. 21 p. 318
Vol. 22 p. 245, 291-293
Vol. 30 p. 315

Arboretum Bulletin. University of Washington.
Winter issue 1969. Propagation of Woody Plants by Seed.
Summer issue 1971. Growing Alpines from seed.

Bulletin of the American Rock Garden Society.

Vol. 16 p. 2. Raising seedlings in a frame.
Vol. 16 p. 3. Seed sowing in pots.
Vol. 16 p. 5-8. Fruit jar methods for seeds.
Vol. 16 p. 11. Snow and germination.

Arnoldia. Arnold Arboretum, Harvard University.

Vol. 20 p. 33-40
Propagation Manual of Selected Gymnosperms*. Arnold Arboretum, Harvard University,
Vol. 37, No. 1 Jan./Feb. 1977 Price \$2.00 Jamaica Plains, Mass. 02130

*GYMNOSPERM - naked seed - as in conifers

Horticulture Northwest. Journal of the Northwest Ornamental Horticultural Society.

Mar. - April 1974 p. 4 Propagation of seed.
May - June 1974 p. 6-7 Propagation of ferns from spores.

R.H.S. Dictionary, Supplement.

p. 508-509. Seed propagation.

Rhododendrons for Your Garden. American Rhododendron Society.

p. 4-5 Propagation by seed
Rhododendrons of the World by David Leach.

Sunset Western Garden Book.

p. 38-39.

Wild Shrubs by Joy Spurr. Pacific Search Press.

p. 20-21.

Wyman's Gardening Encyclopedia.

p. 1013-1015.

Tidbits by Ladybug



Information please: Could any of our members give us the benefit of their experience in growing the Tasmanian climber *Bellardiera longiflora*? Reports thus far have been negative, that it is not hardy, impossible to grow and keep in our gardens of the Pacific Northwest.



In defense of the common Skimmia: There should be a place in every garden for the easy to grow, dependable *Skimmia japonica* if for no other reason than its usefulness during the Christmas holidays. It is much more easily arranged for a festive dinner table than the traditional stiff, sticky holly, and has the added attributes of pest free, shiny green leaves, quantities of red berries and the coming seasons flowers are apparent at the tips of the branches. A simple silver Revere bowl is lovely for such an arrangement, with the addition of tall red or green candles in low silver, single-tapered candle holders on either side. If water is added every few days, it will last throughout the entire holiday season.



Concerning moles: In Connecticut I followed a suggestion for getting rid of moles by placing empty, open ginger ale (or other) bottles in the runs, standing upright. The sound of the breezes across the open tops apparently frightens the little critters. At least it worked for me back east!! Maybe Northwest moles are less fearful, but it might be worth trying.

Good luck!



A word of caution: The warning on the label of any insecticide should be read carefully and strictly adhered to. FOLLOW DIRECTIONS! Danger if swallowed or inhaled have been well known; however, it must also be realized that extreme damage to the eyes can result from dusts and sprays.





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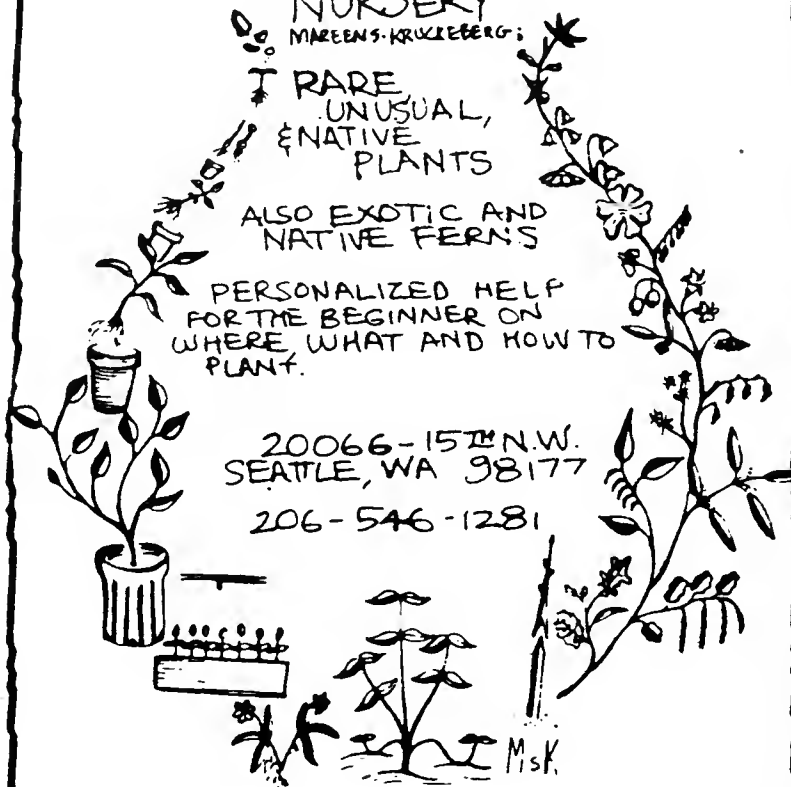
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